In the Claims:

The following listing of claims replaces all other prior listings of claims.

1. (currently amended) A method of diagnosing a pathological condition of a patient's body tissue, the method comprising: determining the presence or severity of ischemia in the tissue by inserting a pH sensor into the tissue, directly measuring intracompartmental pH in the tissue, and using the intracompartmental pH measurement to diagnose the pathological condition; wherein the pH sensor consists of a single probe mounted on a catheter.

2. (original) A method as claimed in claim 1, wherein the tissue is muscle.

3. (previously presented) A method as claimed in claim 1, wherein a second sensor is used to measure the intracompartmental pressure in the tissue.

4. (cancelled)

5. (currently amended) A method as claimed in claim [[4]] 1, wherein the catheter is inserted into ~~the~~ a muscle through a cannula.

6. (previously presented) A method as claimed in claim 5, wherein the cannula is inserted into skeletal muscle in an orientation that is generally parallel to the muscle fibres.

7. (currently amended) A method as claimed in claim 5, ~~wherein the tissue is adjacent to a bone fracture, and~~ wherein the cannula is inserted into ~~the~~ a muscle adjacent to a bone fracture site, but not communicating with~~,~~ the bone fracture site.

8. (previously presented) A method as claimed in claim 1, wherein the reading from the sensor is compared with a calibrated scale to determine the extent of tissue damage.

9. (previously presented) A method as claimed in claim 1, wherein the pathological condition is Acute Compartment Syndrome.

10. (cancelled)

11. (previously presented) A method as claimed in claim 1, wherein the ischemia involves a shock selected from the group consisting of septic shock, neurogenic shock, cardiogenic shock and hypovolaemic shock.

12-23 (cancelled)